SITE WASTE MINISATION AND MANAGEMENT PLAN

New Multi-Purpose Hall at Nepean Creative and Performing Arts High School

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1 INTRODUCTION

This management plan supports a Development Application (DA) submitted to Penrith City Council pursuant to Part 4 of the *Environmental Planning and Assessment Act 1979* (EP&A Act) for the construction and operation of a new multi-purpose hall at the Nepean Creative and Performing Arts (CAPA) High School at 115-119 Great Western Highway, Emu Plains, NSW.

1.1 Location and current use

The site is located at 115-119 Great Western Highway, Emu Plains, within the Penrith City local government area (LGA). The site is located on Lot 12 DP 1056135 and has an area of approximately 12 hectares (ha).

The site is owned by the NSW Department of Education and the Nepean CAPA High School is a large, co–educational community school experiencing significant growth that will see the demand for its educational services increase in the coming years. The school currently services a student population of 1,175 students. Current infrastructure has not been designed to service ~1,200 students or to facilitate the complex site requirements of a performing arts specialty stream. The site is identified on the location plan provided as **Figure 1**.

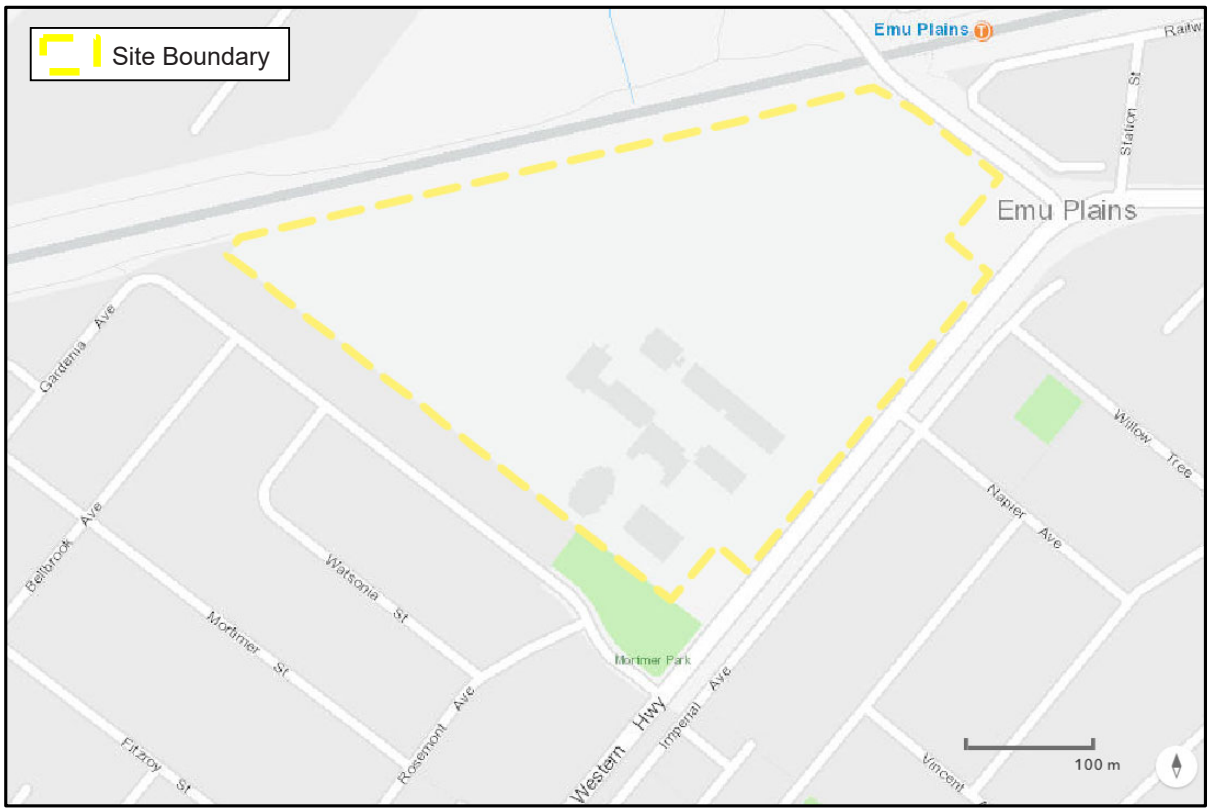

Figure 1 – Site Location

1.2 Project description

The proposed development is the construction and usage of a new multi-purpose hall within the confines of the existing Nepean CAPA High School. The new multi-purpose hall will be located midway and approximately 18 metres from the southern boundary of the site immediately north-west of the existing multi-purpose facility.

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The new facility will function as a multipurpose hall to achieve curriculum requirements (Stream 9 EFSG Standards) and be used for performances, events, indoor sports and as a community resource during school hours. A site plan, extracted from the Architectural Plans, is provided as **Figure 2**.

Specifically, the proposed development includes the following works:

- Installation of temporary site-specific erosion and sediment control measures prior to construction works commencing and maintenance throughout construction.
- Removal of 0.10 ha of planted native vegetation.
- Demolition / removal of two existing sheds, removal of two existing gas tanks and concrete slab, removal of concrete slab west of the existing hall, and removal of internal fencing.
- Minor earthworks and levelling of the site.
- Construction of the new multi-purpose hall. The facility will be variable in height to approximately 10.2 metres above natural ground level high and occupy an area of approximately 1,105m^2. It will contain a gymnasium with capacity for functions seating around 570 persons, equipment and storage rooms, change / shower facilities, foyer and other areas required for its' operation.
- New entry landscaping around the building.
- Adjustment to utilities as required including new concrete slab and LPG tanks north of the new building.
- New metal sheds at the rear of the new building.
- Operation of the new multi-purpose hall.

Once constructed the new multi-purpose hall will strengthen current relationships with wider community groups and schools.

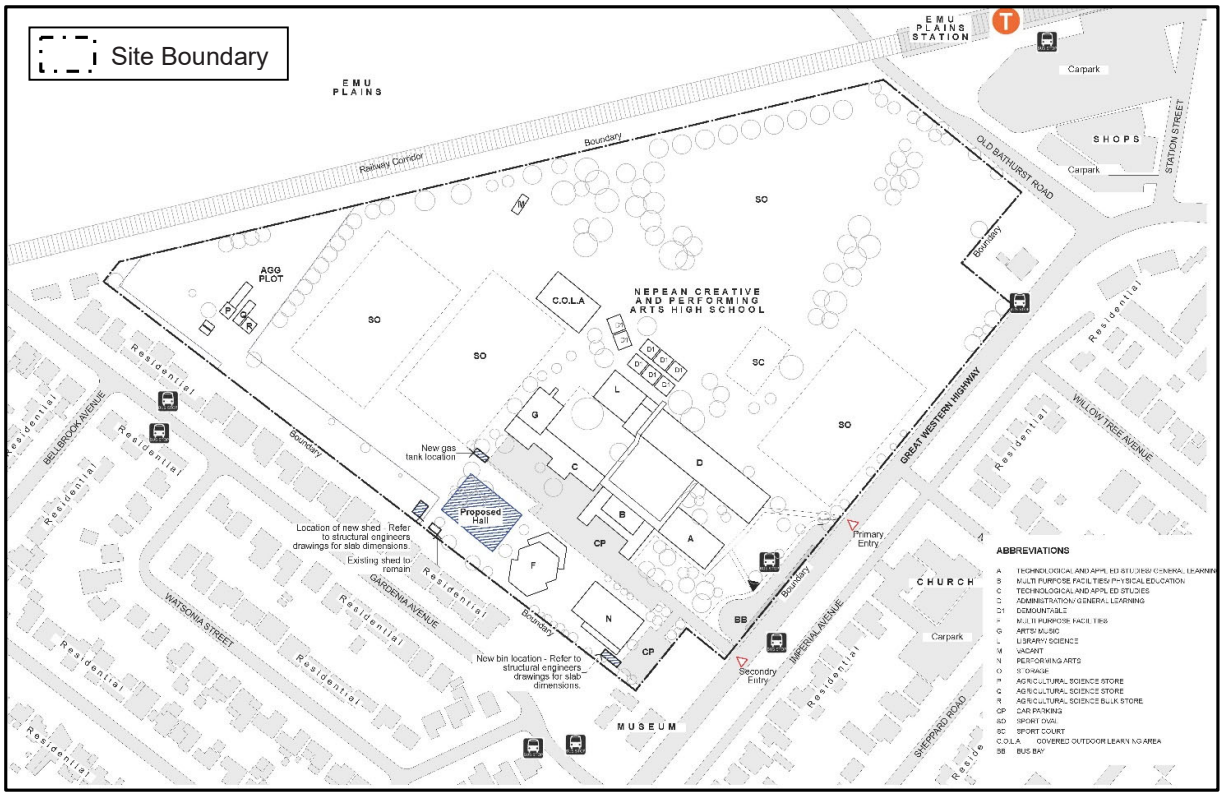

Figure 2 – Site Layout Plan

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2 PURPOSE AND OBJECTIVES

The main purpose of this Site Waste Minimisation and Management Plan (SWMMP) is to satisfy the requirements of *Appendix F3 Section 4.7 Waste Management* of the Penrith DCP 2014, and to maximise resource recovery and minimise residual waste from demolition and construction activities, including:

- Minimisation of waste generation;
- Maximisation of recycling and reuse of waste materials;
- Appropriate handling and storage of waste materials whilst present on the site during demolition activities;
- Disposal of wastes to appropriately licenced facilities;
- Minimise the environmental impacts associated with waste management; and
- Meet regulatory requirements for waste recycling and disposal.

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3 ENVIRONMENTAL REQUIREMENTS

3.1 Legislation

Legislation relevant to waste management includes:

- EP&A Act
- *Protection of the Environment Operations Act 1997 (POEO Act)*
- *Protection of the Environment Operations (General) Regulation 2009*
- *Protection of the Environment Operations (Waste) Regulation 2005*
- *Waste Avoidance and Resource Recovery Act 2001 (WARR Act)*
- *Contaminated Land Management Act 1997*
- *National Greenhouse and Energy Reporting Act 2007 (Cth)*
- *Noxious Weeds Act 1993,* and
- *Environmentally Hazardous Chemicals Act 1985.*

3.2 Guidelines and standards

The main guidelines, specifications and policy documents relevant to this Plan include:

- *Waste Classification Guidelines Part 1: Classifying waste* (NSW EPA, 2014)
- *Waste Classification Guidelines Part 2: Immobilisation of waste* (NSW EPA, 2014)
- *Waste Classification Guidelines Part 4: Acid sulfate soils* (NSW EPA, 2014)
- *Waste Reduction and Purchasing Policy 2011-2014* (WRAPP), NSW Government
- *Guidelines on Resource Recovery Exemptions - Land Application of Waste Materials as Fill* (2011, DECCW)
- *Storing and Handling Liquids, Environmental Protection: Participants Manual* (NSW DECC, 2007)
- *National Environment Protection (Assessment of Site Contamination) Measure 1999* (National Environment Protection Council, April 2013), and
- *Penrith Development Control Plan 2014 – Appendix F3 Section 4.7 – Waste Management.*

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4 ENVIRONMENTAL ASPECTS AND IMPACTS

4.1 Waste streams

The following waste streams have been identified and categorised for the demolition and construction activities.

4.1.1 Demolition

- Metal, including waste reinforcing steel, steel beams, purlins, steel roofing iron and sheeting, and aluminium.
- Waste concrete.
- Timber beams.
- Glass.
- Electrical wiring.
- Green waste from tree removal.
- General wastes including site office wastes, scrap materials and biodegradable wastes.

4.1.2 Construction

- Excavated soil material (ENM).
- Timber.
- Waste concrete.
- Metal.
- Plasterboard / fibre cement sheeting.
- Fixtures and fittings.
- Waste electrical wiring.
- Floor coverings.
- Packaging (used pallets, pallet wrap).
- Green waste from site preparation.
- Containers (cans, plastic, glass).
- Paper/cardboard.
- Wastewater from excavations (dependant on weather).

4.2 Impacts

4.2.1 Demolition

Potential environmental impacts associated with demolition waste handling activities are described below.

- Generation of dust and noise resulting from demolition works and movement of trucks and equipment.
- Traffic delays resulting from trucks entering and leaving the demolition site.
- Inappropriate disposal of hazardous waste if discovered.
- Generation or spread of contaminated waste/soils (eg. groundwater, used or expired chemicals).
- Water pollution due to surface water runoff from exposed areas.

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4.2.2 Construction

Potential environmental impacts associated with construction waste handling activities are described below.

- Excessive dust and noise from the sorting and removal of waste materials from the site.
- Traffic delays resulting from waste trucks entering and leaving the construction site.
- Water pollution due to surface water runoff from waste storage areas.
- Incorrect sorting and segregation of waste by construction contractors.
- Spilt residual chemicals, paints, and solvents.

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5 WASTE MANAGEMENT ASSESSMENT

5.1 Classification of waste streams

Where waste cannot be avoided, reused or recycled it will be classified and appropriate disposal will then occur. The classification of waste is undertaken in accordance with the EPA's *Waste Classification Guidelines Part 1: Classifying Waste* (2014). This document identifies six classes of waste: Special, Liquid, Hazardous, Restricted Solid, General Solid (putrescible) and General Solid (non-putrescible) and describes a six step process to classifying waste. That process is described below:

Step 1: Is it 'special waste'?

Establish if the waste should be classified as special waste. Special wastes are: clinical and related, asbestos, waste tyres. Definitions are provided in the guidelines.

Note: Asbestos and clinical wastes must be managed in accordance with the requirements of Clauses 42 and 43 of the *Protection of the Environment Operations (Waste) Regulation 2005*.

Step 2: If not special, is it 'liquid waste'?

If it is established that the waste is not special waste it must be decided whether it is 'liquid waste'. Liquid waste means any waste that: has an angle of repose of less than 5° above horizontal becomes free-flowing at or below 60° Celsius or when it is transported is generally not capable of being picked up by a spade or shovel.

Liquid wastes are sub-classified into:

- Sewer and stormwater effluent;
- Trackable liquid waste according to Protection of the Environment Operations (Waste) Regulation 2005 Schedule 1 Waste to which waste tracking requirements apply; and
- Non-trackable liquid waste.

Step 3: If not liquid, has the waste already been pre-classified by the NSW EPA?

The EPA has pre-classified several commonly generated wastes in the categories of hazardous, general solid waste (putrescibles) and general solid waste (non-putrescibles). If a waste is listed as 'pre-classified', no further assessment is required.

Step 4: If not pre-classified, is the waste hazardous?

If the waste is not special waste (other than asbestos waste), liquid waste or pre-classified, establish if it has certain hazardous characteristics and can therefore be classified as hazardous waste.

Hazardous waste includes items such as explosives, flammable solids, substances liable to spontaneous combustion, oxidizing agents, toxic substances and corrosive substances.

Step 5: If the waste does not have hazardous characteristics, undertake chemical assessment to determine classification.

If the waste does not possess hazardous characteristics, it needs to be chemically assessed to determine whether it is hazardous, restricted solid or general solid waste (putrescible and non-putrescible). If the waste is not chemically assessed, it must be treated as hazardous.

Waste is assessed by comparing Specific Contaminant Concentrations (SCC) of each chemical contaminant, and where required the leachable concentration using the Toxicity Characteristics Leaching Procedure (TCLP), against Contaminant Thresholds (CT).

Step 6: Is the general solid waste putrescible or non-putrescible?

If the waste is chemically assessed as general solid waste, a further assessment is available to determine whether the waste is putrescible or non-putrescible. The assessment determines whether the waste is capable of significant biological transformation. If this assessment is not undertaken, the waste must be managed as general solid waste (putrescible).

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5.2 Classification of potential waste streams

The types of wastes and their classifications that will be generated during demolition activities are provided below in **Table 1**, while the types of wastes and their classifications that will be generated during construction activities is detailed in **Table 2**.

Table 1 Potential Waste Streams - Demolition

Waste types	Classification	Reuse / Recycling / Disposal
Demolition		
Metals	General solid waste	Recyclable metal to be separated and collected for recycling by a recycling contractor.
Waste Concrete	General solid waste	Remove and crush offsite for use as recycled road base or as a blending material. Concrete waste and any metals to be separated and collected by concrete recycling contractor.
Timber	General solid waste (non-putrescible)	Recyclable timber to be separated and collected for recycling by a recycling contractor.
Glass	General solid waste (non-putrescible)	Separated and collected by recycling contractor
Containers (can, bottles, glass)	General solid waste (putrescible)	All waste streams to be separated and recycled. Collection by recycling contractor for recycling. Dispose non-recyclable material to licensed waste disposal facility.
Green Waste (trees)	General solid waste (non-putrescible)	Trees to be chipped or mulched onsite for re-use in landscaping or in existing school gardens.

Table 2 Potential Waste Streams - Construction

Waste types	Classification	Reuse / Recycling / Disposal
Construction		
Excavated material	General solid waste (non-putrescible)	Stockpile and re-use on site as fill once classified. Stockpiles to have suitable temporary erosion and sediment control measures installed. Any excess to be re-used off-site.
Metals	General solid waste	Recyclable metal to be separated and collected for recycling by a recycling contractor.
Waste Concrete	General solid waste	Remove and crush offsite for use as recycled road base or as a blending material. Concrete waste and any metals to be separated and collected by concrete recycling contractor.
Timber	General solid waste (non-putrescible)	Recyclable timber to be separated and collected for recycling by a recycling contractor.
Plasterboard / fibre cement sheet	General solid waste (non-putrescible)	To be separated and collected for recycling by a recycling contractor.
Green waste (from site preparation)	General solid waste (non-putrescible)	Topsoil and organic layer of vegetation to be scalped and stockpiled for re-use in landscaping works following the completion of construction activities.
Wastewater	Liquid Waste	To be removed by sucker truck and disposed of at a licenced liquid waste treatment facility.
Containers (cans, bottles, glass)	General solid waste (putrescible)	All waste streams to be separated and recycled. Collection by recycling contractor for recycling. Dispose non-recyclable material to licensed waste disposal facility.

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5.3 Preliminary waste management plan

A separate waste management plan has been prepared for the demolition and construction activities and is provided as **Appendix A**. The waste management plan provides the following:

- Type of waste to be generated.
- Expected volumes / quantities.
- Treatment / re-use / recycling methods.
- Disposal methods.

5.4 Reuse and recycling

Waste separation and segregation will be promoted on-site to facilitate reuse and recycling as a priority of the waste management program as follows:

- Waste segregation onsite – Waste materials, including spoil, will be separated onsite into dedicated bins/areas for collection by a waste contractor and transport to offsite recycling facilities / disposal sites.
- Waste separation offsite – Wastes to be deposited into one bin where space is not available for placement of multiple bins, and the waste is to be sorted offsite by a waste contractor.

Where materials cannot be reused and recycled, all waste would be handled and disposed in accordance with the *Protection of the Environment Operations Act 1997*.

5.5 Waste handling and storage

Where waste is required to be handled and temporarily stored onsite prior to offsite recycling/disposal, the following measures apply:

- Spoil and waste soils temporarily stockpiled onsite will be suitably managed to control dust and surface water runoff.
- Liquid wastes are to be removed directly by sucker trucks and transported offsite to a licenced liquid waste recycling facility.
- Any hazardous wastes are to be removed by appropriately qualified and licenced contractors, in accordance with the requirements of the *Environmentally Hazardous Chemicals Act 1985* and the EPA waste disposal guidelines.
- All other recyclable or non-recyclable wastes are to be stored in appropriate covered receptacles or bays (e.g. bins or skips) for removal offsite to approved disposal or recycling facilities.

5.6 Waste disposal

Waste (and spoil) disposal is to be in accordance with the *Protection of the Environment Operations Act 1997* and the *Waste Avoidance and Resource Recovery Act 2001.*

Wastes will be removed off-site to a recycling facility or will be disposed of at a licenced waste facility. Those wastes that are unable to be reused or recycled will be disposed of offsite to an EPA approved waste management facility following classification.

Details of waste types, volumes and destinations are to be recorded in the Waste Tracking Register provided in **Appendix B**.

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6 ENVIRONMENTAL MITIGATION MEASURES

Mitigation and management measures associated with waste handling on the site are outlined below and have been developed to ensure consistency with industry best practice:

- Ensure that all waste (liquid, air emissions and solid material) generated during construction are managed in accordance with waste hierarchy (avoid, reuse, recycle, dispose) to reduce adverse impact on the environment.
- Manage and reduce consumption and use of natural resources and promote the use of alternative environmentally friendly materials where practical.
- Licenced waste contractors will be used to collect, transport and dispose of materials at a licensed off-site facility in accordance with waste regulations.
- Waste will be appropriately contained in designated waste areas located away from drainage paths.
- No burning of waste is allowed under any circumstances.
- General and putrescible waste and recyclables such as metal, plastic, glass, paper, cardboard will be segregated and collected in suitable waste containers positioned in convenient locations within each work area.
- Concrete, steel, timber, and plasterboard will be temporarily stored in separate areas for removal.
- Waste soil will be temporarily stored in stockpiles away from drainage lines with appropriate run-off controls.
- All waste skip bins will have secure lids in place to prevent water ingress.
- Quantities of waste kept on-site will be kept to a minimum. Maximum volume of each waste stored will be consistent with EPA regulations and guidelines.
- Portable toilets used on site during demolition activities will be serviced as required, with effluent disposed of at a licenced off-site facility.
- Where excavated soil can't be re-used onsite it will be classified in accordance with waste classification guidelines and disposed of offsite.
- Waste concrete, timber, steel, cardboard, paper, recyclable plastics removed from site will be processed recycling facilities for reuse.
- Any Asbestos Containing Materials (ACM) identified will be disposed off-site at a licensed facility in accordance with waste classification guidelines.

In addition, a Waste Tracking Register template has been prepared to assist with the management and tracking of waste generated during demolition works. The Waste Tracking Register is attached as **Appendix B**.

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7 MONITORING AND REVIEW

7.1 Monitoring, inspection and reporting program

Daily visual inspections of the site will be undertaken to identify actual or potential waste management issues. Any issues will be reported to the Site Supervisor or WHS&E Representative for mitigation and management.

7.2 Waste register

A waste register will be maintained by the WHS&E Representative to record waste disposal from the Project. All dockets and receipts will be retained for waste tracking to record the date of waste removal and identify the waste transport contractor and destination of the wastes.

7.3 Waste tracking

The following wastes are subject to special monitoring and reporting requirements by the EPA under the waste tracking system:

- Hazardous non-liquid waste (e.g. asbestos).
- Industrial non-liquid waste.
- Liquid wastes including non-recyclable oils, fuels, chemicals and paint.

It is the Site Supervisors obligation under the *NSW Protection of the Environment Operations (Waste) Regulation 2005* to identify and complete tracking information for all trackable wastes. The waste tracking register included in **Appendix B** will be used to track all materials entering and leaving the site.

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8 RESPONSIBILITIES

It is the responsibility of the Site Supervisor to ensure that wastes on site are appropriately segregated, sorted, and disposed of in an environmentally sustainable and lawful manner. It is the responsibility of all workers and contractors on the development site to ensure that specific waste streams are stored in the designated containments areas for later collection by a licenced waste contractor.

Any non-conformance with this SWMMP should be reported immediately to the Site Supervisor or WHS&E Representative.

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Appendix A

Waste Management Plan

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Waste Management Plan

Demolition

Type of waste	Estimated Volume (m3) or Weight (t)			Method of reuse or disposal
	Reuse	Recycling	Disposable	
Metals		$10m^3$		Recyclable metal to be separated and collected for recycling by recycling contractor.
Waste Concrete		$10m^3$		Remove and crush offsite for use as recycled road base or as a blending material. Concrete waste and any metals to be separated and collected by concrete recycling contractor.
Timber		$8m^3$		Recyclable timber to be separated and collected for recycling by recycling contractor.
Glass		$1m^3$		Separated and collected by recycling contractor
Domestic waste generated by workers		$1m^3$	$1m^3$	Separated and collected by recycling contractor. Remainder sent to landfill.
Green waste (trees)	$30m^3$			Trees to be chipped or mulched onsite for re-use in landscaping or in existing school gardens.

Construction

Type of waste	Estimated Volume (m3) or Weight (t)			Method of reuse or disposal
	Reuse	Recycling	Disposable	
Spoil Material / Soil	$10m^3$		$20m^3$	Stockpile and re-use some material on site as fill once classified. Stockpiles to have suitable temporary erosion and sediment control measures installed. Any excess to be disposed off-site.
Metals		$5m^3$		Recyclable metal to be separated and collected for recycling by recycling contractor.
Waste Concrete		$3m^3$		Remove and crush offsite for use as recycled road base or as a blending material. Concrete waste and any metals to be separated and collected by concrete recycling contractor.
Timber		$3m^3$		Recyclable timber to be separated and collected for recycling by recycling contractor.
Plasterboard / fibre cement sheet		$4m^3$		To be separated and collected for recycling by a recycling contractor.
Green waste (from site preparation)	$10m^3$			Topsoil and organic layer of vegetation to be scalped and stockpiled for re-use in landscaping works following the completion of construction activities.

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Wastewater		$4m^3$	To be removed by sucker truck and disposed of at a licenced liquid waste treatment facility.
Domestic waste generated by workers	$5m^3$	$5m^3$	Separated and collected by recycling contractor. Remainder sent to landfill.

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Appendix B

Waste Tracking Register

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Waste Tracking Register

Date/Time	Waste Classification (Special waste, general solid waste, liquid waste etc)	Waste Description (concrete, steel, spoil etc)	Amount	Transporter	Receiving Facility	Waste Use (recycled, stored, treated, disposed)	Reference (Receipt, certificate)

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